Claims

1. Receiver antenna system (1) of broad bandwidth consisting of several active, vertical individual antennae (2_1, 2_2,..., 2_N) with an electrically-active antenna height adapted to the respective received frequency range,

characterized in that

the mutual electromagnetic coupling between the individual antennae (2_1, 2_2,..., 2_N), which are positioned at a small spacing distance, is minimized.

2. Receiver antenna system according to claim 1,

characterized in that

the mutual coupling between the individual antennae (2_1, 2_2,..., 2_N) is minimised by optimization of the individual mechanical and electrically-active antenna heights, the individual antenna diameters, the spacing distances between individual antennae and the input impedances of the active base-point electronics (7_1, 7_2,..., 7_N) associated with the individual active antennae (2_1, 2_2,..., 2_N).

3. Receiver antenna system according to claim 2,

characterized in that

the respective electrically-active antenna height is optimized by an optimized arrangement of several impedance elements ($Z_{\mu,\nu}$) in the respective individual antennae (2_1, 2_2,..., 2_N) and their optimized interconnection.

4. Receiver antenna system according to claim 3,

characterized in that

the optimized arrangement of the impedance elements ($Z_{\mu,\nu}$) relative to one another takes place both within one individual antenna (2_1, 2_2,..., 2_N) and also between the individual antennae (2_1, 2_2,..., 2_N).

5. Receiver antenna system according to claim 4,

characterized in that

the printed-conductor portions ($l_{\mu,\nu}$) between the intermittent impedance elements ($Z_{\mu,\nu}$) of each individual antenna (2_1, 2_2,..., 2_N) are of a shorter length with increasing distance from the base point (5_1, 5_2,..., 5_N).

6. Receiver antenna system according to any one of claims 3 to 5,

characterized in that

the interconnection of the impedance elements ($Z_{\mu,\nu}$) provides a low impedance in the case of low received frequencies, and provides a high impedance in the case of high received frequencies.

7. Receiver antenna system according to claim 6,

characterized in that

the interconnection of the impedance elements ($Z_{\mu,\nu}$) consists of a parallel circuit comprising an inductance ($L_{\mu,\nu}$) and an ohmic resistor ($R_{\mu,\nu}$) or annular or tubular ferrite cores fitted onto the printed conductor portions.

8. Receiver antenna system according to any one of claims 2 to 7,

characterized in that

the input impedance (10_1, 10_2,..., 10_N) of the active base-point electronics (7_1, 7_2,..., 7_N) provides a high-resistance input impedance in those of the individual antennae (2_1, 2_2,..., 2_N), which are determined for the reception of low-frequency transmission signals.

9. Receiver antenna system according to claim 8,

characterized in that

the input impedance (10_1, 10_2,..., 10_N) of the active base-point electronics (7_1, 7_2,..., 7_N) consists of a parallel circuit comprising a high-resistance resistor (R_{E1}, R_{E2},..) and a low-capacity capacitor (C_{E1}, C_{E2},..) in those of the individual antennae (2_1, 2_2,..., 2_N), which are determined for the reception of low-frequency transmission signals.

10. Receiver antenna system according to any one of claims 2 to 9,

characterized in that

the input impedance (10_1, 10_2,..., 10_N) of the active base-point electronics (7_1, 7_2,..., 7_N) in those of the individual antennae (2_1, 2_2,..., 2_N), which are determined for the reception of relatively high-frequency transmission signals, is designed to be of low-resistance for low-frequency transmission signals and to be at the base-point impedance of the passive antenna region (6_1, 6_2,..., 6_N) of the respective individual antenna (2_1, 2_2,..., 2_N) for relatively high-frequency transmission signals.

11. Receiver antenna system according to claim 10,

characterized in that

the input impedance (10_1, 10_2,..., 10_N) of the active base-point electronics (7_1, 7_2,..., 7_N) in those of the individual antennae (2_1, 2_2,..., 2_N), which are determined for the reception of relatively high-frequency transmission signals, consists of a parallel circuit comprising a resistor (..., R_{En-1}, R_{En}) and an inductance (..., L_{En-1}, L_{En}).

12. Receiver antenna system according to any one of claims 8 to 12, characterized in that

the input impedance (10_1, 10_2,..., 10_N) of the active base-point electronics (7_1, 7_2,..., 7_N) is additionally mismatched in a targeted manner preferably outside the useful frequency range to the base-point impedance of the passive antenna region (6_1, 6_2,..., 6_N) of the respective individual antenna (2_1, 2_2,..., 2_N).

13. Receiver antenna system according to any one of claims 2 to 12, characterized in that

the received frequency ranges of the individual antennae (2_1, 2_2,..., 2_N) adjoin one another and form a complete received frequency range.

14. Receiver antenna system according to claim 13, characterized in that

phase matching networks (8_1, 8_2,..., 8_N) for phase matching of the received transmission signals and a crossover network (9) for combining the individual received transmission signals are connected to the passive antenna regions (6_1, 6_2,..., 6_N) for the reception of transmission signals and to the base-point

electronics (7_1, 7_2,..., 7_N) for the amplification and filtering of the received transmission signals.